What Is Claimed Is:

1. A method for operating a fuel injection system for an internal combustion engine comprising at least two cylinders each associated with one bank, the fuel injection system comprising at least two piezoelectric elements and each cylinder having associated with it at least one respective piezoelectric element for injecting fuel into the cylinder by charging or discharging the piezoelectric element; and the piezoelectric elements having associated with them a supply unit for charging or discharging the piezoelectric element; and monitoring being performed as to whether an overlapping occurs between a time interval in which one piezoelectric element is to be charged or discharged, and a time interval in which the other piezoelectric element is to be charged or discharged,
wherein monitoring is performed as to whether, in the context of a lower-priority injection, the charging or discharging occurs within a predefined time interval around the point in time of a charging or discharging of a higher-priority injection, the spacings of time-related charging and/or discharging edges (edge overlaps) being determined during operation of the fuel injection system, and the magnitude of the shift and/or shortening of the lower-priority injections with respect to the higher-priority injections being determined therefrom.

2. The method as defined in Claim 1,
wherein the injection priorities are predefined, the definition being maintained for one injection cycle.

3. The method as defined in Claim 1 or 2,
wherein the determination of the edge overlaps is accomplished during interrupts of a triggering circuit during operation of the fuel injection system.

4. The method as defined in Claim 3,
wherein the determination of the edge overlaps is accomplished as a function of the rotation speed and crankshaft angle of the internal combustion engine.

5. The method as defined in any of Claims 1 through 4,
wherein the edge overlaps are ascertained in pairs, preferably in a context of pairs belonging to different banks.

6. A method for operating a fuel injection system for an internal combustion engine comprising at least two cylinders each associated with at least one bank, the fuel injection system comprising at least two piezoelectric elements and each cylinder having associated with it at least one respective piezoelectric element for injecting fuel into the cylinder by charging or discharging the piezoelectric element; and the piezoelectric elements having associated with them a supply unit for charging or discharging the piezoelectric element, and monitoring being performed as to whether an overlapping occurs between a time interval in which one piezoelectric element is to be charged or discharged, and a time interval in which the other piezoelectric element is to be charged or discharged,
wherein monitoring is performed as to whether a crankshaft angle range covered from the beginning of the earliest injection to the end of the latest injection (utilized crankshaft angle range) exceeds a predefined permissible angle range, and the magnitude of the shift and/or shortening of the lower-priority injections with respect to the higher-priority injections is determined therefrom.

7. The method as defined in Claim 6,
wherein in internal combustion engines having a single-bank structure, the permissible angle range is determined by dividing the value of 720° crankshaft angle by the number of cylinders.

8. The method as defined in Claim 6, wherein in internal combustion engines in which several cylinders are grouped into one bank and several banks are supplied from the same supply unit in order to charge or discharge the piezoelectric elements (quasi-multi-bank structure), the permissible angle range is determined by dividing the value of 720° crankshaft angle by the number of cylinders multiplied by the number of banks.

9. The method as defined in any of Claims 6 through 8, wherein the utilized angle range is determined by a minimum/maximum selection of the angle data for the earliest injection and the latest injection.